



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes June 15, 2006

The Citizens Advisory Board (CAB) met at the CAB office in Paducah, Kentucky, June 15, 2006, at 6 p.m.

Board members present: John Anderson, Allen Burnett, Judy Clayton, Shirley Lanier, Bobby Lee, Linda Long, Elton Priddy, Jim Smart, Rhonda Smith and James Tidwell

Board member absent: Chad Kerley, Janet Miller and John Russell

Ex Officio members and related regulatory agency employees present: Brian Begley, Brian Baker and Bill Clark, Kentucky Division of Waste Management; Tim Kreher, Kentucky Department of Fish and Wildlife Resources; David Williams and Debbie Vaughn-Wright, Environmental Protection Agency

Deputy Designated Federal Official present: Rachel Blumenfeld

DOE Federal Coordinator present: Jeff Snook

DOE-related employees present: Rich Bonczek, Jeannie Brandstetter, Yvette Cantrell, Bryan Clayton, Kim Crenshaw, Ken Davis, Bruce Gardner, Guy Griswald, Steve Hampson, Steve Kay, Reinhard Knerr, Jim McVey, Lindell Ormsbee, Bruce Phillips, Pat Presley, Mike Spry, Joe Tarantino, Barry Tilden, and John Volpe

Four members of the public attended the meeting.

Introductions

Board facilitator Steve Kay called the meeting to order at 6 p.m. He introduced Priddy, a new member of the Board.

Agenda

Kay asked for proposed modifications to the agenda. He suggested Action Items be placed on the agenda before the break on a standing basis due to actions assigned to regulators. **The Board adopted the agenda as modified by consensus.**

Minutes

Kay asked for proposed modifications to the draft May minutes. There were none. **The Board approved the minutes as submitted by consensus.**

Deputy Designated Federal Official *Attachment 1*

Blumenfeld provided the project updates to the Board. Questions and answers (paraphrased) appear below.

Questions/Comments	Answers
Mr. Burnett – Are the 10 packaged intermodels of waste materials and debris still in the building or was it disposed with the scrap metal?	Mr. Knerr – The intermodels are still on site but they will be shipped to the landfill or Energy Solutions pending final characterization information.

Federal Coordinator Comments

There were none.

Ex-Officio Comments

There were none.

Public Comments

Johnson asked how much mixed legacy waste remains at the plant. Blumenfeld said she would answer his question to the extent possible at the next meeting.

Vanderboegh said he wanted to make a clarification from the May Board meeting. He said John Maybriar, Kentucky Department of Waste Management (KDWM), had asked him whom he had contacted at the state pertaining to the waste acceptance criteria at the C-746-U Landfill and it was Keith Sims, not Larry Hamilton.

Vanderboegh said Senator Mitch McConnell wanted him to bring forward some of the issues with the water discharges at the plant. He asked Blumenfeld if there are discharge limits at

some of the outfalls pertaining to uranium contamination going out of the outfall ditches into the commonwealth waters. Blumenfeld said outfall limits set on the outfalls fall under the Kentucky Pollutant Discharge Elimination System standards. She said she could bring the outfall limits to the next meeting. He said he had received documentation from the Kentucky Division of Water of samples that were taken by the regulators. He said the data shows the elevated uranium levels are 20 times what the surface water limits should be. He said he provided documentation to Williams and to Citizens Advisory Board (CAB) members and asked Blumenfeld to look at the data so questions could be asked later pertaining to the discharge levels being elevated. He said he has worked with the solid waste requirements for RAD going to the landfill under the Atomic Energy exclusions but he is uncertain of the discharge limits down to the waters of the Commonwealth. Volpe said if it is a state issue, the limits are set by Kentucky regulations and are compatible with the Nuclear Regulatory Commission agreement. He said the limit for uranium is 300 pCi/L, which is a federal permitted release limit. He said all release limits could be found in 902KAR 100:019.

Task Forces/Presentations

Summary of Results for the Southwest Plume Site Investigation *Attachment 2*

Clayton provided a presentation on the summary of results for the Southwest Plume Site Investigation. Questions and answers (paraphrased) appear below.

Questions/Comments	Answers
<p>Mr. Burnett – From the diagrams, those areas that are selected for drilling have shown high levels of concentrations, how do you know it would not be somewhere else?</p>	<p>Mr. Clayton – All of these areas have been previously investigated. Our focus was follow-up on the information that had already been done.</p> <p>Mr. Williams – We tried to have transport models of groundwater flow completed to determine if these are isolated hits. We are looking at that information right now.</p>
<p>Mr. Williams – Where are the boundaries on your maps imported from?</p>	<p>Mr. Clayton – It would have come from the geographic information system (GIS) database but I am uncertain of the specific file. I will try to find out which file was used.</p>
<p>Mr. Williams – On slide 17, are you implying that the dense nonaqueous-phase liquid (DNAPL) is below Solid Waste Management Unit (SWMU) 4 but the source is coming from a DNAPL associated with other areas?</p>	<p>Mr. Clayton – We are suggesting that there is DNAPL below SWMU 4 that is a result of SWMU 4. The concentrations in the groundwater are sufficient values to suspect that there is a DNAPL in that location. It cannot be verified, but based on the values found in the groundwater itself, that is what is being indicated.</p>

<p>Mr. Burnett – What is a DNAPL?</p>	<p>Mr. Clayton – The trichloroethylene (TCE) does not mix well with water. TCE is heavier than water so when you release it into the water from the bottom of a landfill, it will migrate until it cannot go any further. In this particular case, the indication due to the high concentration in that area, the TCE has come from the landfill and is in the upper portions of the Regional Gravel Aquifer (RGA) within the groundwater as a separate phase.</p> <p>Ms. Blumenfeld – DNAPL is an acronym for dense non-aqueous phase liquids. It means that it is not going to be present in a continuous level. That is what makes the DNAPL such a challenge because you can actually have little puddles of it in different places.</p>
<p>Mr. Burnett – It is predicted that the TCE concentration is at the property boundary. When you consider all of the sources as a whole, are they additive?</p>	<p>Mr. Clayton –A numeral addition cannot be done. If you modeled them as combined sources, the geographies would not combine because they may be in different areas of flow.</p>
<p>Ms. Lee – It looks like SWMU 4 is a major source and SWMU 1 is a borderline source.</p>	<p>Mr. Clayton – SWMU 1 does have a source area in the shallow soils and above the RGA. SWMU 4 is the major contributor of all of the areas looked at in this investigation to the Southwest Plume. SWMU 1 contributes some but is not the major component.</p>
<p>Ms. Lee – In your conclusions, you are suggesting that SWMU 4 needs to be cleaned up. What about SWMU 1?</p>	<p>Mr. Clayton – Based on the modeling, it is indicated that SWMU 1 is less than 1 ppb at the property boundary. Depending on if the model is acceptable and the action cleanup criteria, you might be able to make the call. At this point, all of the information has not been accepted.</p>

<p>Ms. Lee –At the task force meeting, there has been some question from the regulators on the model that has been used because of a degradation issue. What exactly is the issue between the regulators and the U. S. Department of Energy (DOE)? The TCE is slowly degrading by itself and if you make that assumption, nothing has to be done because it will degrade its half-life at 26 years. The CAB needs to be aware whether or not the TCE is staying there for hundreds of years or it is degrading. I think the model suggested that the TCE is degrading.</p>	<p>Mr. Williams – The issue is being reviewed. That used to be the assumption. Now there is a new assumption that there is a rapid degradation. This is the first time that it has been presented to them but it has been used at other DOE facilities.</p> <p>Ms. Blumenfeld - There has been analysis and scientific theory put forward for this and that is what Kentucky and EPA are looking at to see whether they agree with it. It is consistent with work that was done in Idaho that showed the same type of degradation occurring for TCE. The question is concerning degradation in aerobic environments versus anaerobic environments. The question is being analysis from a scientific perspective and it has not been used at the site before. That is why it is not being accepted.</p>
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PGDP Property Acquisition Study Attachment 3

Ormsbee provided a presentation on the Paducah Gaseous Diffusion Plant Property Acquisition Study. Questions and answers (paraphrased) appear below.

Questions/comments	Answers
<p>Mr. Williams – In task #5, I interpret that to mean changing the points of compliance.</p>	<p>Mr. Ormsbee – We interpret that as looking at the remediation options that have been identified in the Feasibility Study for the Groundwater Operable Unit. For each option, we will be looking at what the concentration would be at specific points and what additional institutional controls would be necessary to protect the public if that option were to be implemented.</p>

<p>Mr. Williams – In the discussion of the point of compliance for the Southwest Plume, which was used for calculations of remedial action to reach the mcl of that point of compliance, you would be moving that point of compliance because you bring the property into the DOE. The people would be moved out of the area of the plume, therefore, they would not be exposed. In the discussions for reuse of the property, these points of compliance are only good if it remains DOE property. Once reuse is discussed, it is a whole new ballgame. People, industries and reuse are brought back in with the transfer of DOE property. It would be a short-term solution. For long-term to be achieved, the property would need to be acquisitioned to an entity such as for a golf course.</p>	<p>Mr. Ormsbee – We will be looking at analysis of concentrations at various points from the property to the fence and points beyond that. We are not considering moving the points of compliance. We are looking at cost breakdowns and analysis and the scope of the study is not related to the consideration of regulatory issues with regards of compliance or point movement. We are mainly looking at costing out institutional controls options with regard to remediation options that have been already laid out in the groundwater operable unit strategies.</p>
<p>Mr. Williams –I want to point out that the EPA HQ Federal Facilities Remediation Office, the Federal Facilities Enforcement Office, as well as our lawyers are digesting this. This issue is not new to EPA. It is an issue that we have gone around on with various federal facilities and projects for years. The question is if I never sell this property then that means I do not have to remediate the plume and the answer is no. You still have to remediate the plume. This is just a land use control.</p>	<p>Ms. Blumenfeld – We were directed by Congress to do the study. Mr. Ormsbee – We are looking to stay on the right side of the regulatory issue fence. We are not looking at that issue. We recognize there are implications here, but that is not KRCEE’s responsibility to address that.</p>
<p>Ms. Lee – Will potential future reuse of the site impact remediation strategies and are you going to make those considerations when you do the analysis? To the community, that is an important component.</p>	<p>Mr. Ormsbee – We do recognize that there could be some potential reuse of the property. We will look at the property acquisition options that might allow that to occur. We are going to try to look at a wide range of remediation options and different property acquisition options that will include information that will provide some insight to that answer but it is not finalized at this point. We are looking at different options to acquire the property.</p>

<p>Mr. Williams – As a case in point, for instance, with a private property holder, it is very difficult to enforce a restriction on drilling a well as it is right now. However, if DOE were to take possession of that property and then transfer it again, they could put in place in the deed of transfer longer restrictions.</p>	<p>Mr. Ormsbee – Yes, that would restrict that type of drilling to take place.</p>
<p>Ms. Smith – In task #1, on June 29, will you have a graphic depiction of what areas or property will be considered in the study.</p>	<p>Mr. Ormsbee – We do not intend on picking individual properties. We will be looking at clusters of properties. Based on the preliminary analysis, we are starting with the Water Policy area as a possible suite of properties that could be impacted. The plume is currently identified to be included in the study and that could move either direction east or west. It may pick up a buffer east of Metropolis Lake Road. We are looking at non-DOE property including TVA property and the Wildlife Management Area around 9,000 acres.</p>
<p>Ms. Smith – My concern is for the public to be knowledgeable and to generate interest. Will you be advertising the location, such as a one-page ad?</p>	<p>Mr. Ormsbee – It will be publicized but I do not know the size if the ad. Ms. Blumenfeld – It is not usually a full page.</p>
<p>Ms. Long – Some of the people that live around me do not take the paper. A letter needs to be mailed to all the people that could be affected.</p>	<p>Mr. Ormsbee – It is intended that all property owners that will be impacted by the results of the preliminary analysis will be contacted individually. Ms. Blumenfeld – The public property records will be used to obtain contact.</p>
<p>Ms. Smith – In addition to the possibility of a one-page ad, in there anything this Board can do to help publicize the meeting? We could share half of the expense for the ad.</p>	<p>Mr. Ormsbee – We would be glad to partner with the CAB to help publicize the meeting. Ms. Blumenfeld – She asked Bonczek to work with Smith, Ormsbee, and Snook to coordinate the publicity of the meeting.</p>

<p>Ms. Lee – Is there a way to get some of the information in GIS format for mapping that the CAB is doing in order to communicate with the public. Is the information and software available to the public?</p>	<p>Mr. Ormsbee – The maps will be generated by a GIS system. The product is being developed for DOE so it would be their call on who the maps would be shared with.</p> <p>Ms. Blumenfeld - We would look at sharing information. Sometimes there is proprietary information that has to do with the software license, but our intent is to support your mapping efforts.</p> <p>Mr. Ormsbee – All of the software used is GIS.</p> <p>Mr. Williams – It is my understanding that McCracken County does not currently have the property boundaries in GIS format.</p> <p>Ms. Ormsbee – We have some GIS coverages that identify all of the parcels from the Engineering Office. We already have a preliminary data set and are working on additional coverage to the east of Metropolis Lake Road. We are also communicating with the Property Valuation Administration (PVA) office to pull all of the information together.</p>
<p>Mr. Kreher – In task #3, what are the development of cost estimates based upon? Will they be based on the average value acre of farmland sold in Kentucky over the past year ?</p>	<p>Mr. Ormsbee – We are trying to be more geographically specific than that. That is why we are in contact with the PVA office to get an idea of property value specific to this locale around the facility and range of cost relative to specific land use issues.</p>
<p>Mr. Kreher – Acquiring a group of property is supposed to be a cost efficient practice. If you are assuming that the land could be purchased, for example, for \$2500 an acre but one of the property owners in that group will not accept \$10,000 an acre, the assumption made is worthless if that takes place.</p> <p>Ms. Long – I will not take \$10,000 an acre for my land.</p>	<p>Mr. Ormsbee – We will look at fair market value for the properties and conduct some sensitivity analysis on those perimeters to look at some ranges beyond that to get an idea of the potential impact of those types of variables.</p>
<p>Ms. Smith – In task #8, the CAB is scheduled to receive presentations in May, July, and September. Can a report be provided to the CAB after the final report?</p>	<p>Mr. Ormsbee – I will check on that.</p>

Waste Disposition/Water Quality Task Force

Lee said the Waste Disposition/Water Quality task force discussed concerns over the landfill regarding the waste acceptance criteria. Russell is preparing a recommendation on this issue but he was unable to attend the meeting this month.

Lee said the majority of the meeting was spent discussing the land use maps. She said she appreciated the participation and ideas from Snook, Williams, Begley, and Baker. She said Snook would discuss the requests with Blumenfeld. Lee said one of the requests regarding property location could be provided by the Kentucky Research Consortium for Energy and the Environment (KRCEE). She said Williams provided some insight on what other facilities have done and is scheduled to give a presentation to the task force next month. Snook suggesting tying the maps in with projects including how far along the project is and if a record of decision has been made. She said she hopes the task force can begin seeing some of the maps next month.

Public Comments

Johnson, former DOE contractor employee, asked if a DNAPL has ever been positively identified. Clayton said one has been identified in a monitoring well at C-400 during the Six-Phase Treatability Study. Johnson said DNAPL was the catch phase at the beginning of all of the projects and now it is used infrequently because it cannot be found. He said that twenty years ago there were levels of contamination that came out of monitoring wells in the Northwest Plume that were extremely high and if samples were taken today the levels would probably be much lower. He said that eventually there will not be a problem because the levels at the boundary will be much lower. Over time mother nature is doing a great job and the big key is controlling the source of the contamination. He said several years ago pure drums of TCE contaminated waste were put in SWMU 4 and some was highly rad. He said those materials are in the ground but additional drums have not been added due to RCRA laws. The levels will continue to drop because DNAPLs breathe the material up in the groundwater and it spreads out so sometimes there are high readings depending on when the reading is taken.

Vicki Jurka said when TCE is discussed in the Southwest Plume no one talks about the degradation products such as vinyl chloride that might be formed from TCE as it goes through the environment. TCE is a know carcinogen. The pump and treat operation, with regard to the Northeast Plume, takes the groundwater and pumps it through the cooling towers and whatever is in the groundwater is air stripped and sent back into the community. People need to be made aware that a lot of the clean up has adverse effect to the community. For instance, she was told during the Six-Phase study, the radioactivity levels were so high the regulators would not go into that area to see if they were in compliance with the filtration system because the filtration system that they were utilizing was not designed to take into account the levels of radiation that might be in the groundwater. She wanted to make everyone aware of that issue to be considered and if anyone cares to comment on the issue, that would be fine.

Jurka said on Mr. Ormsbee's presentation, Active Citizens for Truth has not notified the public regarding the property acquisition nor do they intend to. She said according to the Congressional Monetary Allocation verbiage, the area in consideration is specifically for property above the plume, it did not say potential deviation from the current course. It appears from the presentation that the property being identified for potential acquisition for the study is what has been rezoned a few years ago by McCracken County for heavy industrial use. If this property is intended for heavy industrial use, she suggested that the KRCEE take into consideration what the price of property that is now utilized as heavy industrial, such as the new industrial park, the value of that property when the buy out is considered. She said she is concerned with the most recent Supreme Court decisions, is the condemnation of people's private property. She asked as a direct question whether that type of action might be taken for some of the people. For instance, if Ms. Long decides she did not want to sell her property, could she find herself under a condemnation proceeding if she was the last holdout for this vast expanse of property. She said the Agency for Toxic Substances and Disease Registry Health Assessment says that the Water Policy people's wells on the west side are not contaminated. She said documents state that only four wells are actually contaminated.

Jurka said she had asked some questions in past meetings regarding mercury and asked if anyone was prepared to answer those questions at this meeting. Blumenfeld said she would address this issue under Action Items on the agenda.

Vanderboegh asked what kind of contaminants would the facility at the landfill treat. Snook said leachate treatment facility has a carbon filter to filter out volatile organic compounds.

Vanderboegh asked about the status of the rubble piles west of Outfall 001 on the rad waste that was identified by KDWM. Knerr said that after DOE was notified, a health physicist was sent out to survey and control the area. The rubble pile was removed and brought inside the fence and it will be sent off for disposal pending final characterization. The surrounding area was surveyed and no indication of additional contamination was found.

Action Items

Blumenfeld said she thought Jurka's question regarding mercury was directed to John Maybriar, KDWM. She said she would coordinate with Maybriar to provide an answer at the next meeting and apologized for the delay. Kay said the action concerning outstanding charges on the CAB budget could be answered when Dollins was present. Crenshaw said Paducah Remediation Services (PRS) is working to upload documents pertaining to the Paducah cleanup to their Website and will notify the CAB when the documents are available. Kay said to leave that action pending until the documents are available. Long said her pond was sampled but she has not received the results. Begley said KDWM is looking into information on radioactivity appearing in the leachate but they do not have an update at this time. Crenshaw said PRS would begin providing news clips to the CAB the week of July 3. She said PRS organizational charts are being finalized and will be presented to the CAB in July along with their presentation. Blumenfeld said updated schedules on the Land

Acquisition Study were presented to the CAB. Brandstetter said the action for the formal statement on the leachate concerns is still pending.

Administrative Issues

Review of Workplan and June Agenda

Blumenfeld said the Site Management Plan presentation could be ready for July. She would need to ensure EPA and the State are agreeable to allowing the presentation before the document was final and asked Snook to follow up with Dollins on the presentation. If Dollins believes the presentation will not be ready, he should notify Brandstetter. Kay said PRS is scheduled to provide their general overview presentation in July. Kay said according to the Land Acquisition Study schedule, a presentation should be added to the July agenda. Lee suggested postponing the presentation until August and schedule the following presentation in October before the report is finalized. Smith suggested an update when the document has been finalized in November. Blumenfeld said she was uncertain of the process for sharing the draft. She said she would discuss modifying the briefing schedule with Bonczek.

Lee said Williams had volunteered to give a presentation on land use software graphics used at other facilities. She asked if the whole CAB would like to the preview or keep it in the task force. Kay suggested the presentation be given at the task force and if they think it would be useful for the whole Board we can add it to a future agenda.

Kay said the CAB is still waiting for a letter from Mr. Murphie for the annual report. Blumenfeld said the letter would be provided before the July meeting.

Budget Review

Smith said the action item was left open for Dollins to contact Bechtel Jacobs Company for outstanding charges against the CAB budget. She said the Executive Committee has not met to discuss the proposed requests by Burnett to indicate on the spreadsheet how much of the budget is EHI's and how much is Board expenditures.

Subcommittee Report

Executive Committee

Kay said there were two letters composed at the chairs meeting to James Rispoli, Assistant Secretary for Environmental Management, that require a vote to authorize the chair's signature on behalf of the CAB. Smith said the first letter requests incorporation of lessons learned from Fernald and Rocky Flats in policies for future site closures. The second letter requests that EM SSABs input on future site environmental budgets. **Both letters were approved for Kerley's signature by consensus.**

Smith said the Executive Committee meeting is scheduled for June 20 at 2 p.m.

Smith said the Santa Fe Chairs Meeting would be held September 6-8. She asked the members to contact staff if any would like to attend.

Chairs Meeting Review

Smith provided a presentation on the April Chairs Meeting that was held in Oak Ridge.

Burnett asked how Fernald ended up on their end state vision with regard to industrialization and reuse of the land. Blumenfeld said a few Environment Management (EM) sites were not required to produce the End State Vision documents if they were deemed to be closure sites and close to the end. She said she knew that was the case with the Rocky Flats site but was uncertain about Fernald. She said they are under a Federal Facilities Agreement so those would have been identified. Blumenfeld asked if he was interested on the end states that have been identified. Smith said the slides showed before and after pictures. She said the Fernald speaker said he would make himself available for questions if Burnett would like to contact him. She said the presentation that they provided at the chairs meeting shows additional slides than what she has shown. Blumenfeld said DOE is splitting EM and Legacy Management (LM). The EM's mission is to cleanup the facility and it is then transitioned to LM. Smith requested that the presentation be added to the Website for review by all the members.

Smith said she had volunteered Paducah to host the Chairs Meeting in October 2007.

The meeting adjourned at 8:30 p.m.

Progress at the Paducah Project



DOE Portsmouth/Paducah Project Office

Update to the Paducah Citizens Advisory Board

June 15, 2006



DUF6 Conversion Project



- Construction of Bayou Creek rail bridge continuing
- Internal construction of Warehouse and Administration Buildings continuing
- Concrete placement completed on cylinder laydown pad, rail loading crane pad, and transformer pad



DUF6 Conversion Project



Construction inside the Warehouse and Administration buildings continues

Placement of steel for the Bayou Creek railroad bridge nears completion



Northwest Corner Scrap Metal Removal



- Continuing to load scrap metal into gondola cars

Lids are placed on gondola cars before the train leaves the site



Northwest Corner Scrap Metal Removal



- 50-car train carrying 3,270 tons left Paducah May 30; train over a half-mile long
- Each car carried approximately 65 tons
- Next 50-car train scheduled for late June



Northwest Corner Scrap Metal Removal

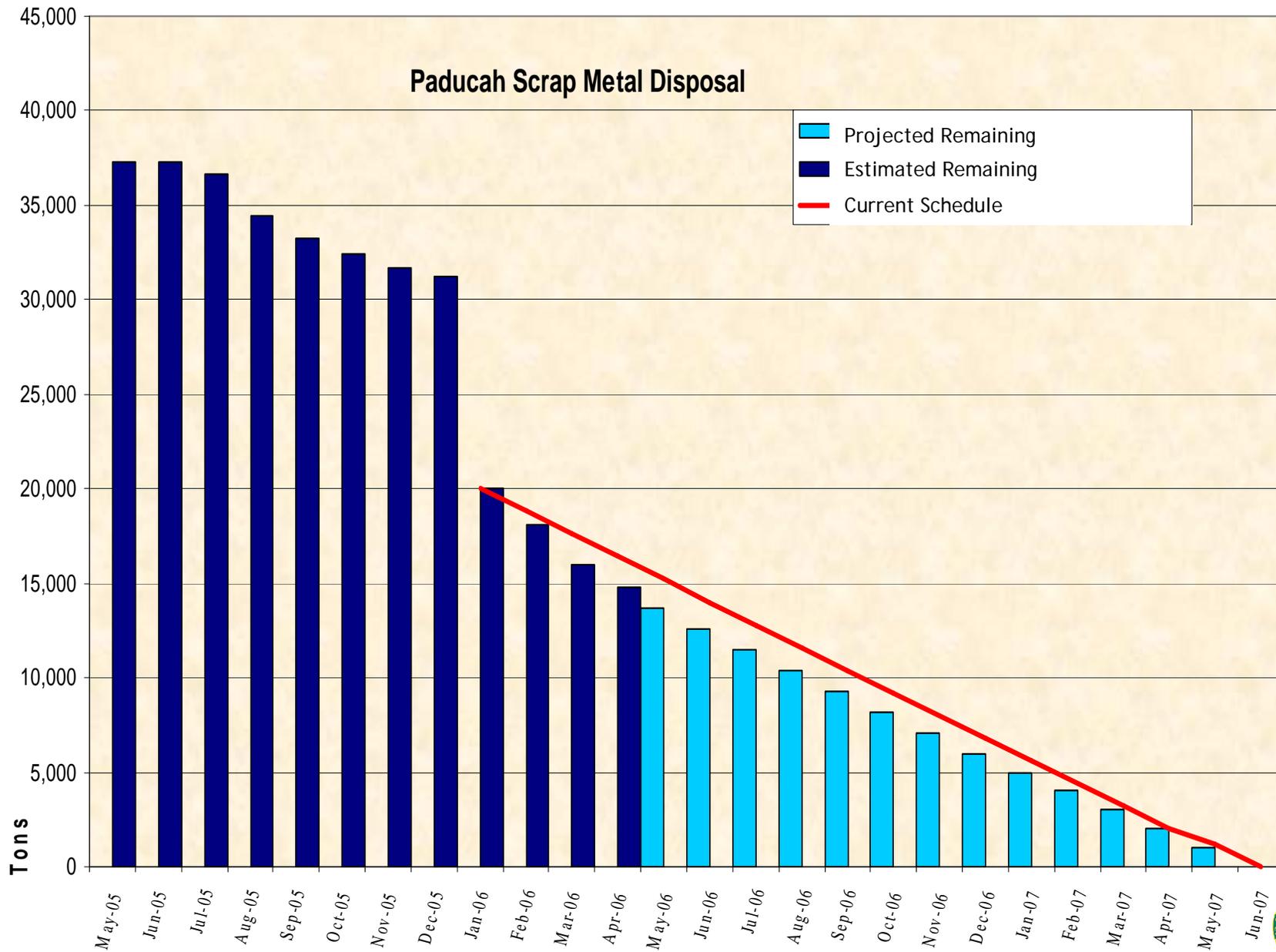
- More than 5,000 tons have been removed from E-Yard since removal work began in late December
- Well under 1,000 tons remain



E-Yard at it appeared in November 2005 (left) and on June 12 (above)



Scrap Metal Project



Legacy Waste Disposition



- In May, shipped 289 ft³ of mixed LLW to TSCA Incinerator

Liquid waste is transferred from drums to a tanker for shipment



Legacy Waste Disposition

- Began removal of remaining 33,000 ft³ of containerized Low-Level Waste stored outdoors
 - Disposed of 1,080 ft³ in C-746-U Landfill

LLW is stored in drums at the H-3 Pad and the V-Pad (shown)



C-746-U Contained Landfill

- Leachate Treatment System construction to be complete July 7
 - Equipment testing/assessment and personnel training to follow
 - First scheduled treatment of leachate to begin August 28



The leachate treatment system (left) and the treatment building (above)

DOE Material Storage Areas

- On track to meet 9/30/06 milestone for characterization of all "B" DMSAs
- Characterization ~ 80% complete
- Disposition ~ 50% complete
- 10 of original 160 DMSAs closed; another 21 emptied
- May totals:
 - Characterized 4,399 ft³
 - Packaged 8,214 ft³
 - Disposed of 2,312 ft³



Metal from a DMSA is resized (above); materials removed from DMSAs are boxed and shipped for disposal at EnergySolutions

Inactive Facilities D&D

- 402 Limehouse demolition to begin in early July
 - Demolition projected to take about two weeks
 - Removal of material and debris from inside building completed
- Completed sampling activities in C-405 Incinerator
- Completing internal comment resolution on Remedial Action Work Plan for Incinerator/West End Smelter for June submission to regulators



The Limehouse at it looked before work began (left) and as it looked earlier this week (below)



C-410/420 D&D

- Re-entry process completed; work has resumed inside the building
- Packed 6,000 ft³ of waste materials and debris into 10 intermodals for disposition
- Application of fixative to stacks and metal surfaces on outside of building completed
- Began Wednesday (June 14) to remove the busswork shown below



Zone 25 shown before removal work began (left) and during work in early June (above)



Environmental Projects

Groundwater Operable Unit

- Revising the C-400 D2 Remedial Design Work Plan
- C-400 Remedial Design Support Investigation to begin June 19
- Issued D2 Site Investigation Report for the Southwest Plume

Surface Water Operable Unit

- Preparing Site Investigation/Risk Assessment; due to regulators 8/16/06

Burial Grounds Operable Unit

- DOE working with regulators to finalize the RI/FS Work Plan





DOE Portsmouth/Paducah Project Office



SUMMARY OF RESULTS FOR THE SOUTHWEST PLUME SITE INVESTIGATION

DOE/OR/07-2180&D2

Site Investigation Report for the
Southwest Groundwater Plume at the
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky



SLIDE 1

 **PADUCAH**
Remediation Services
A Portage Shaw Joint Venture Company

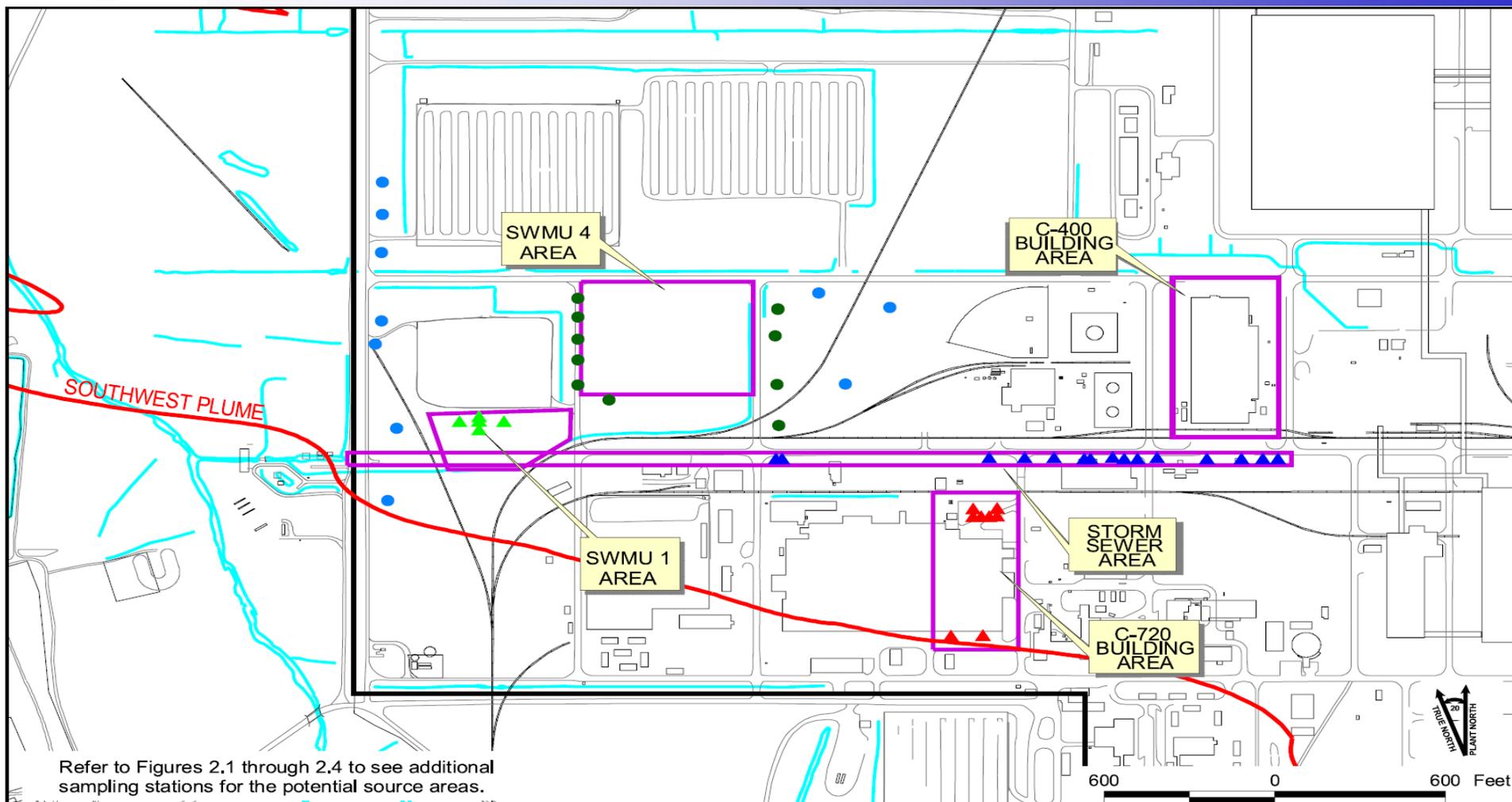


Site Investigation Focus

- The focus of the Site Investigation was to collect sufficient data to resolve data gaps associated with 4 potential source units and collect additional data on the SW Plume.



Site Investigation Areas



Refer to Figures 2.1 through 2.4 to see additional sampling stations for the potential source areas.

LEGEND:

- SOUTHWEST PLUME
- POTENTIAL SOURCE AREA

SOUTHWEST PLUME SITE INVESTIGATION SAMPLING LOCATIONS

- | | |
|---|--|
| <p>SOIL SAMPLING - DPT/MIP</p> <ul style="list-style-type: none"> ▲ SWMU 1 AREA ▲ STORM SEWER (SWMU 102) ▲ C-720 BUILDING AREA | <p>GROUNDWATER SAMPLING - DWRC</p> <ul style="list-style-type: none"> ● SWMU 4 AREA ● SOUTHWEST PLUME (SWMU 210) |
|---|--|

U. S. DEPARTMENT OF ENERGY
DOE PORTSMOUTH/PADUCAH PROJECT OFFICE
PADUCAH GASEOUS DIFFUSION PLANT

Fig. 1.6. Southwest Plume potential source areas.



Southwest Plume Project Study Questions

- **SWMU 1**
 - What is the magnitude and extent of the high concentration zone of TCE, its degradation products, and other VOCs at SWMU 1?
- **C-720**
 - What is the magnitude and extent of the areas of VOCs, metals and radionuclide contamination near the east end of the C-720 Building?
- **Storm Sewer**
 - What is the current structural integrity of the storm sewer?
 - Are there contaminants in the backfill material of the storm sewer and the adjacent soils that may act as sources of contamination for the Southwest Plume?

SLIDE 4



Southwest Plume Project Study Questions (Continued)

- **SWMU 4**
 - What is the level VOC and ^{99}Tc contamination both upgradient and downgradient of SWMU 4 in the RGA.
- **SW Plume**
 - What is the level of VOC and ^{99}Tc in the RGA groundwater passes along the west plant security fence?
 - Is the C-400 Building contributing VOCs or ^{99}Tc to the RGA groundwater in the Southwest Plume?



Groundwater Modeling Results: Expected Migration Pathways for SW Plume

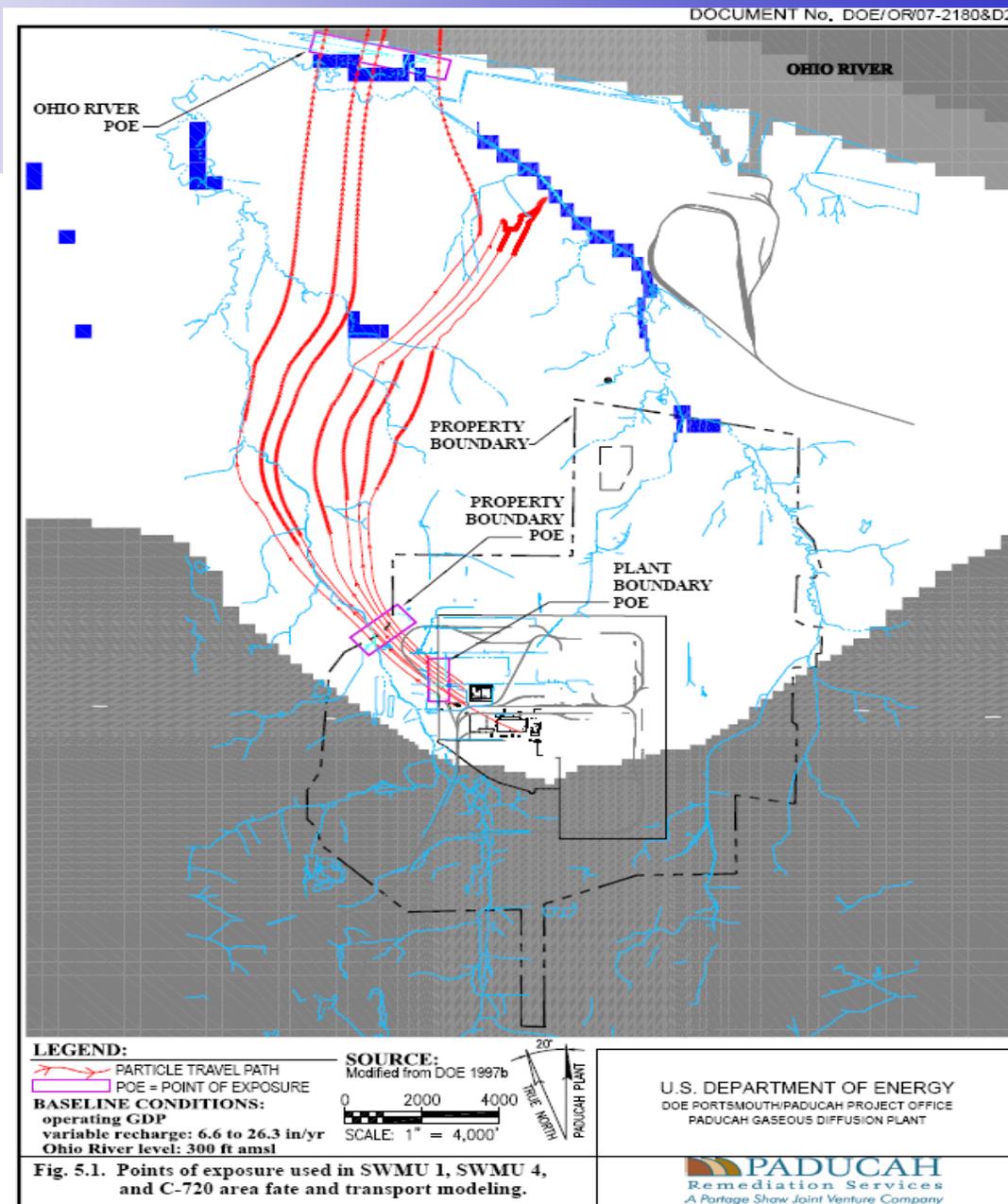


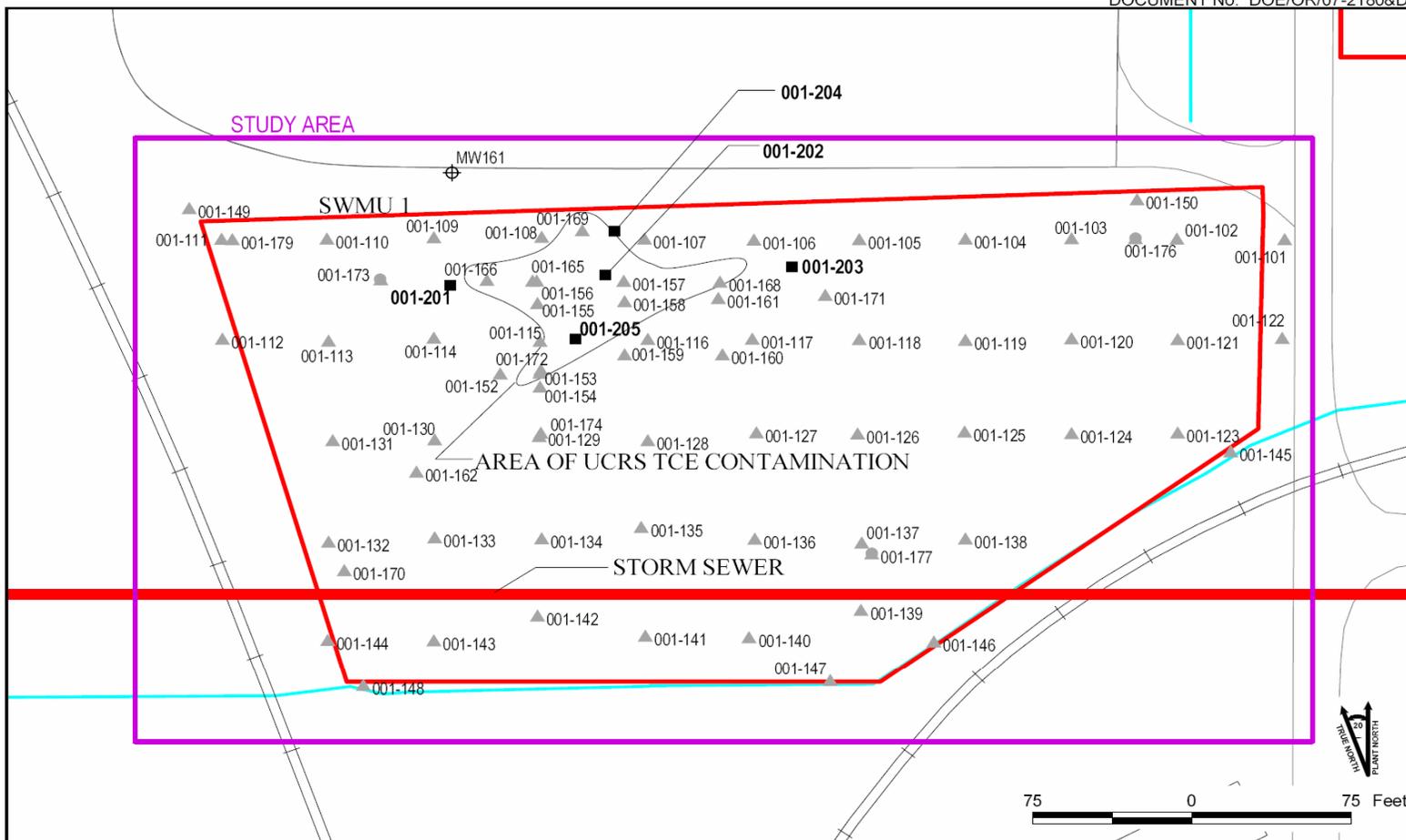
Fig. 5.1. Points of exposure used in SWMU 1, SWMU 4, and C-720 area fate and transport modeling.

FIGURE No. /04040/DWGS/U96PRT-1mod
DATE 12-16-04



SWMU 1

DOCUMENT No. DOE/OR/07-2180&D2



<p>LEGEND:</p> <ul style="list-style-type: none"> SWMU STUDY AREA WITH HISTORICAL DATA 	<ul style="list-style-type: none"> ▲ SOIL BORING ● GROUNDWATER SAMPLE FROM SOIL BORING ⊕ MONITORING WELL ■ SOIL SAMPLE COLLECTED FROM DPT 	<p>U. S. DEPARTMENT OF ENERGY DOE PORTSMOUTH/PADUCAH PROJECT OFFICE PADUCAH GASEOUS DIFFUSION PLANT</p>
<p>Fig. 2.1. SWMU 1 sample locations.</p>		 <p>PADUCAH Remediation Services <i>A Portage Shaw Joint Venture Company</i></p>



SWMU 1 – TCE Source

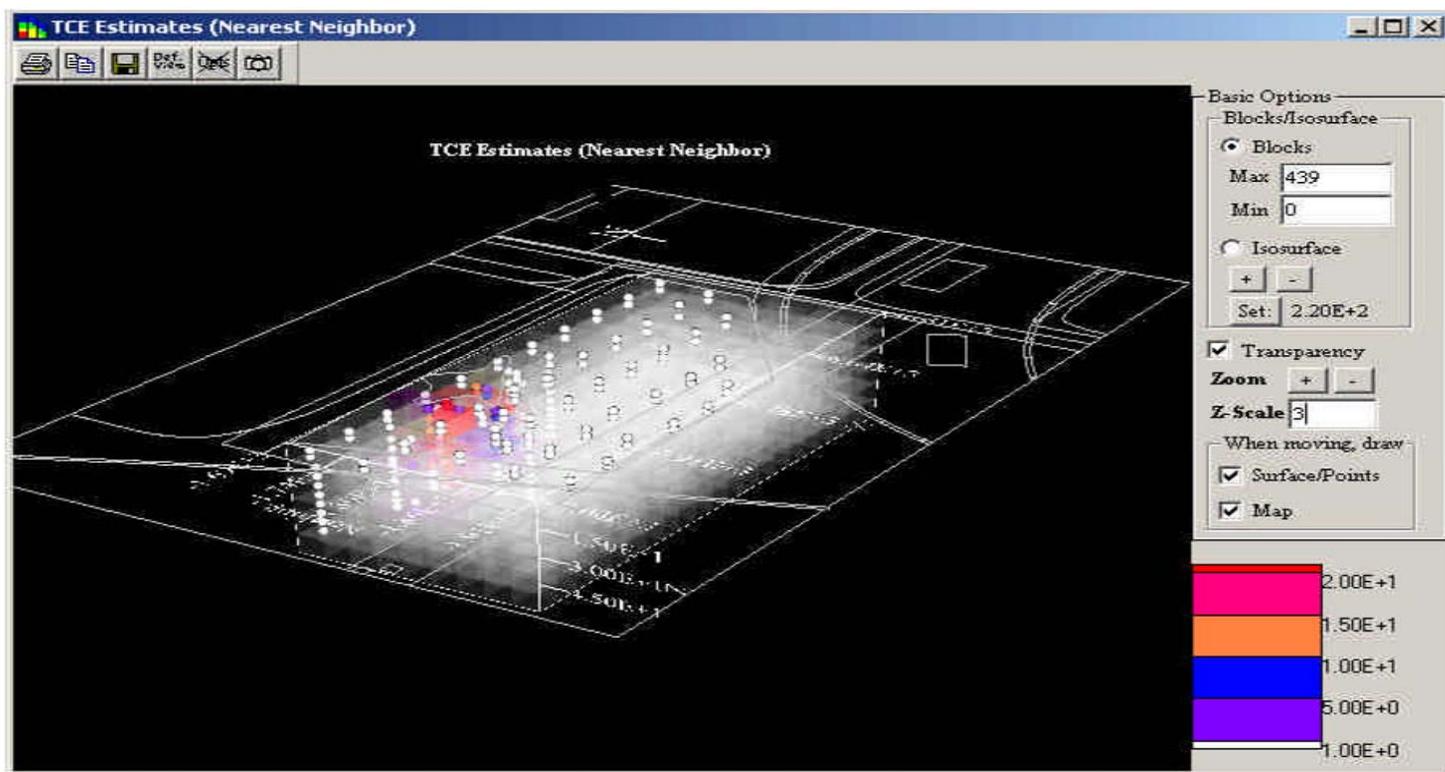


Fig. F.11. Block diagram of TCE soil contamination in the UCRS at SWMU 1 (all values in mg/kg).



Results and Conclusions for SWMU 1

- Area of TCE contamination is about 0.2 acre to a depth of 55 ft. Average concentrations in the source range up to 111 mg/kg (10 to 20 ft bgs).
- Predicted TCE concentration at property boundary from source is 1.3 $\mu\text{g/L}$ (less than the TCE MCL of 5 $\mu\text{g/L}$).
- SWMU 1 is not expected to be a source of metals or radionuclides contamination greater than the MCLs at property boundary.
- SWMU 1 is not a source of ^{99}Tc contamination to RGA water.



C-720 Building

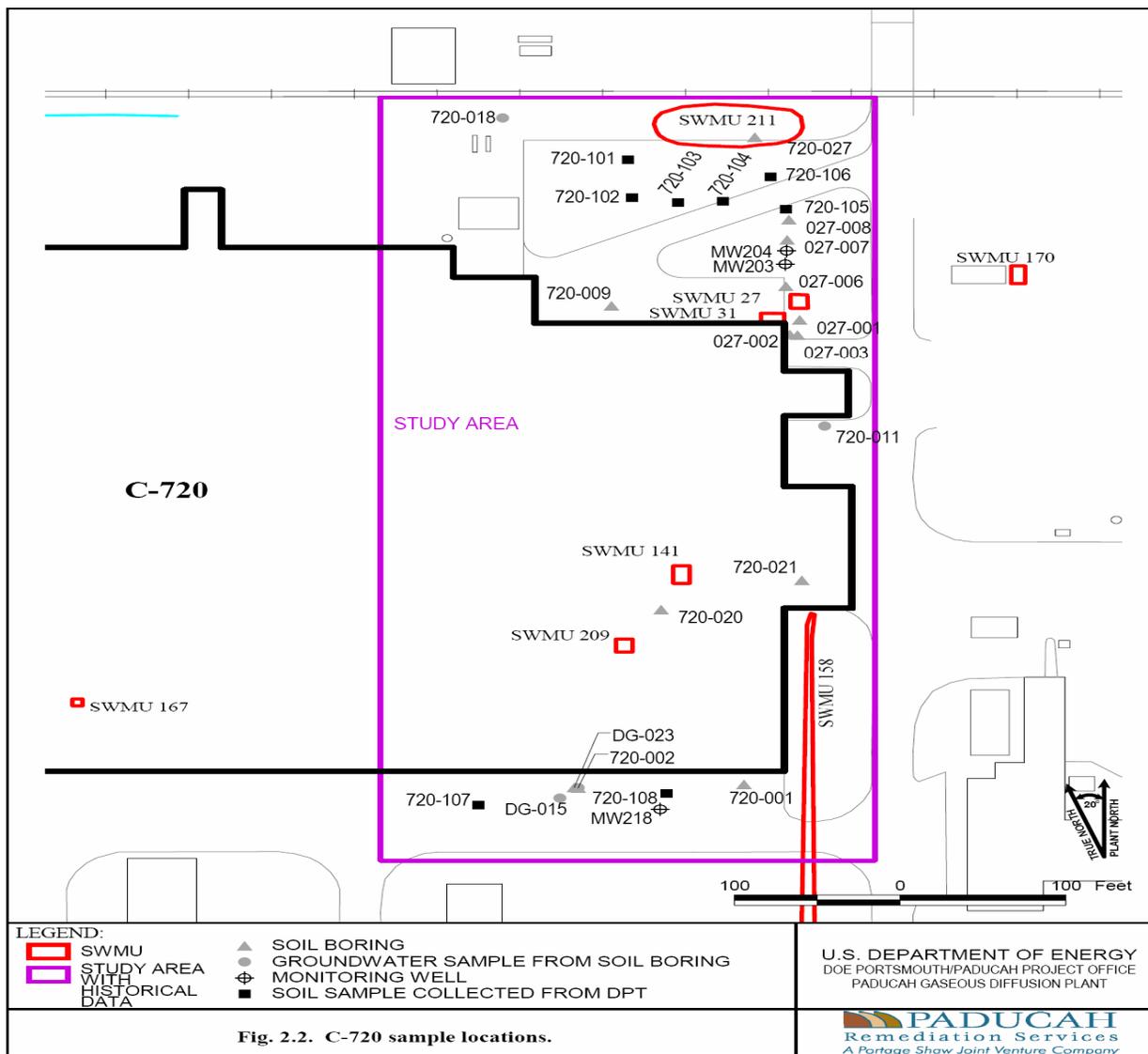


Fig. 2.2. C-720 sample locations.



C-720 Building – TCE Source

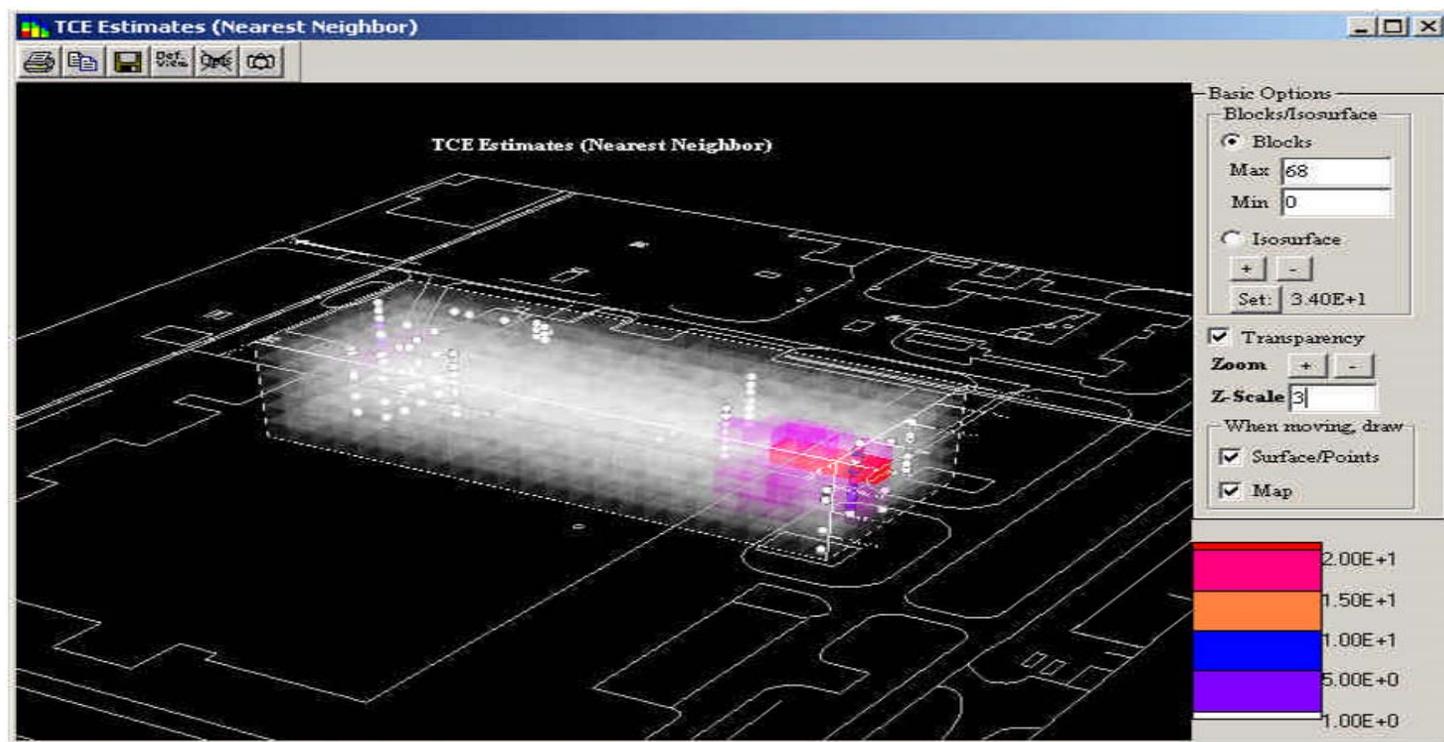


Fig. F.12. Block diagram of TCE soil contamination in the UCRS at C-720 Building area (all values in mg/kg.)

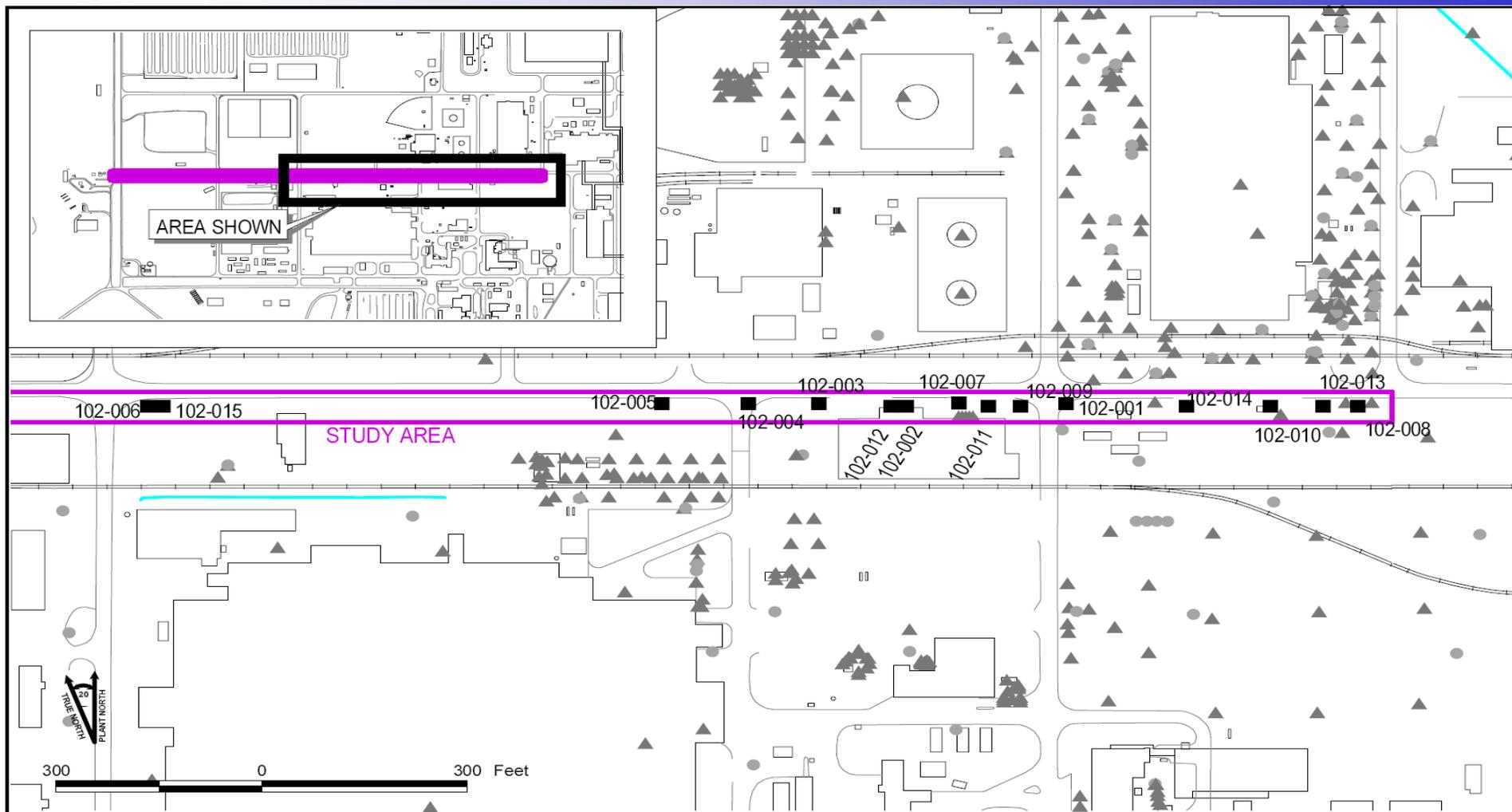


Results and Conclusions for C-720 Building

- Largest area of TCE contamination is about 0.3 acre to a depth of 60 ft. Average concentrations in the source range up to 12 mg/kg (20 to 30 ft bgs).
- Predicted TCE concentration at property boundary from source is 0.1 $\mu\text{g/L}$ (less than the TCE MCL of 5 $\mu\text{g/L}$).
- C-720 is not expected to be a source of metals or radionuclides (including ^{99}Tc) contamination greater than the MCLs at property boundary.
- C-720 is not a source of ^{99}Tc contamination to RGA water.



Storm Sewer



LEGEND:

-  SWMU
-  STUDY AREA WITH HISTORICAL DATA
-  SOIL BORING
-  GROUNDWATER SAMPLE FROM SOIL BORING
-  MONITORING WELL
-  SOIL SAMPLE COLLECTED FROM DPT

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PADUCAH GASEOUS DIFFUSION PLANT



Fig. 2.3. SWMU 102 sample locations.

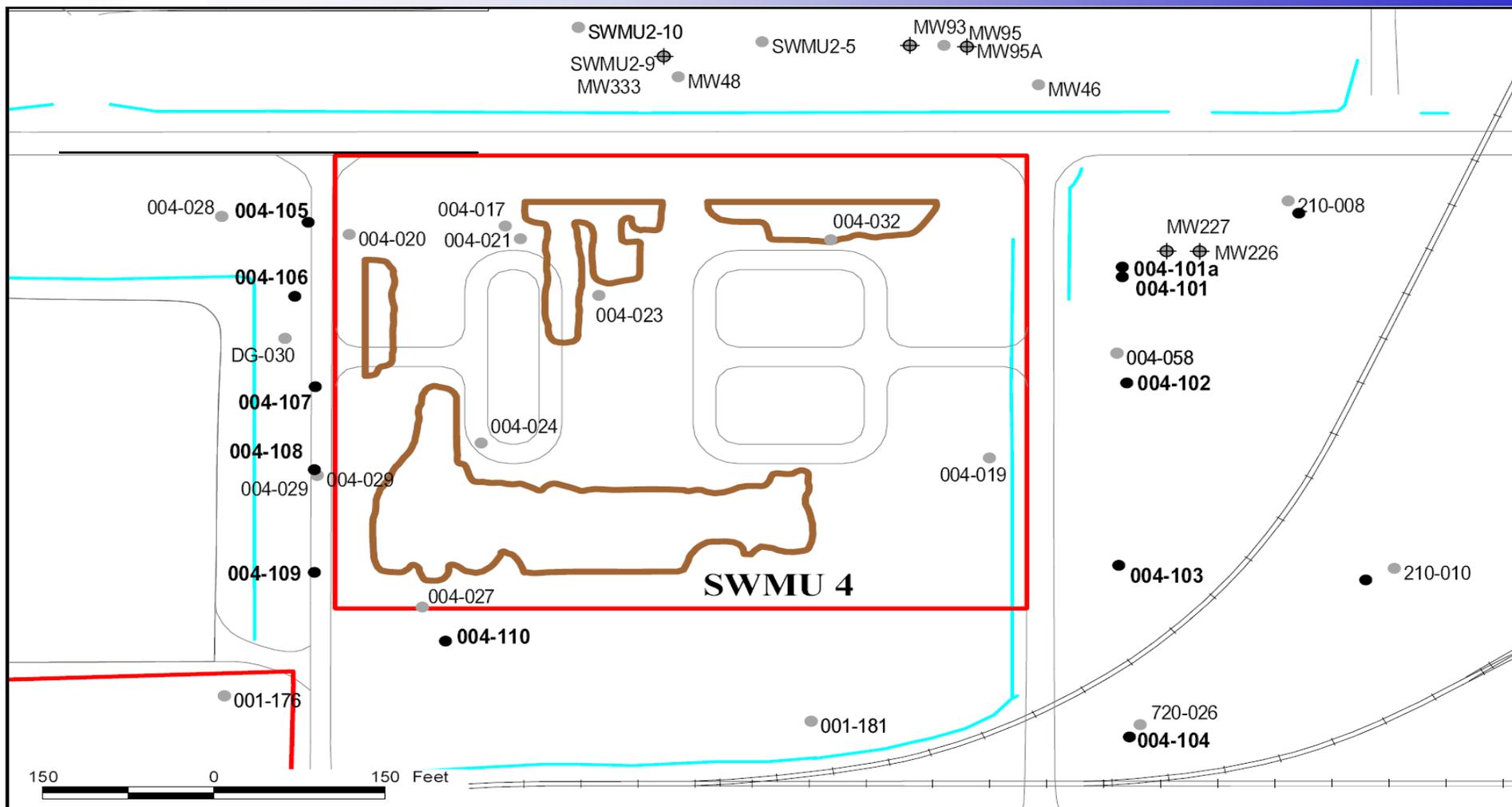


Results and Conclusions for Storm Sewer

- Storm sewer structural integrity is good.
- Not a source of TCE contamination to the RGA.



SWMU 4



LEGEND:

-  SWMU
-  WASTE PIT (as defined during WAG 3)
-  GROUNDWATER SAMPLE FROM SOIL BORING
-  MONITORING WELL
-  SI GROUNDWATER SAMPLE COLLECTED FROM DWRC



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PADUCAH GASEOUS DIFFUSION PLANT



SWMU 4 – UCRS TCE Source

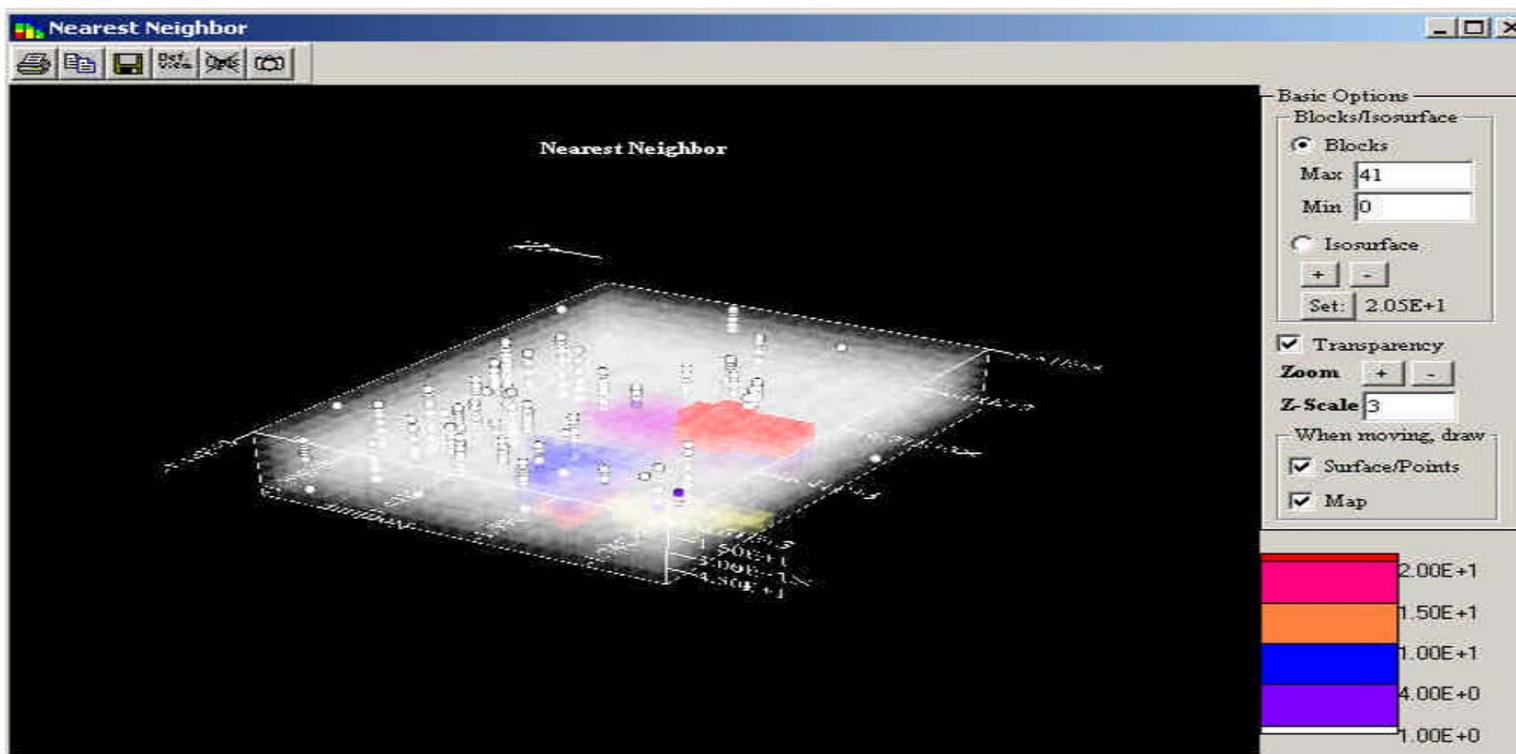


Fig. F.27. Block diagram of TCE soil contamination in the UCRS at SWMU 4 (all values in ppm).

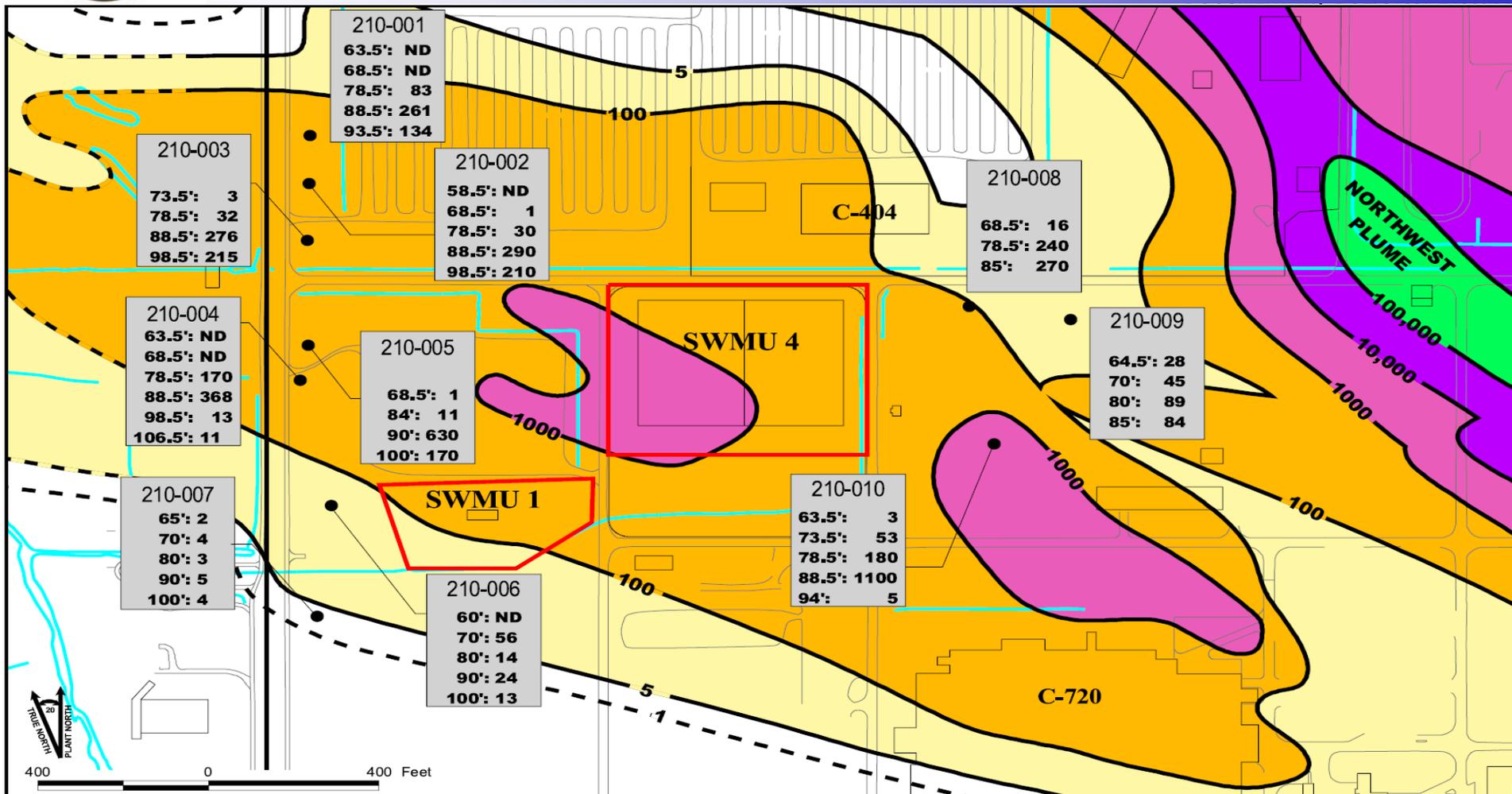


Results and Conclusions for SWMU 4

- Largest area of TCE contamination is about 1.8 acres to a depth of 60 ft. Average concentrations in source range up to 20 mg/kg (30 to 40 ft bgs).
- Suspected secondary source of TCE (DNAPL) in the RGA below unit.
- Predicted TCE concentration at property boundary from both sources is 4.7 $\mu\text{g/L}$ (less than the TCE MCL of 5 $\mu\text{g/L}$).
- SWMU 4 may be a source of metals or radionuclide contamination greater than the MCLs at property boundary.
- SWMU 4 is part of the BGOU Remedial Investigation/ Feasibility Study.



SW Plume - TCE



LEGEND

TCE Plume Boundary
(ug/L):
(modified from BJC 2004)

	>100,000
	10,000-100,000
	1000- 10,000
	100- 1000
	5- 100
	1- 5

Sample Depth & TCE :
Result** (ug/L)
**maximum result of regular
and headspace sampling
ND=non-detect

60': 20
70': 22
80': 15
90': 18
100': 18

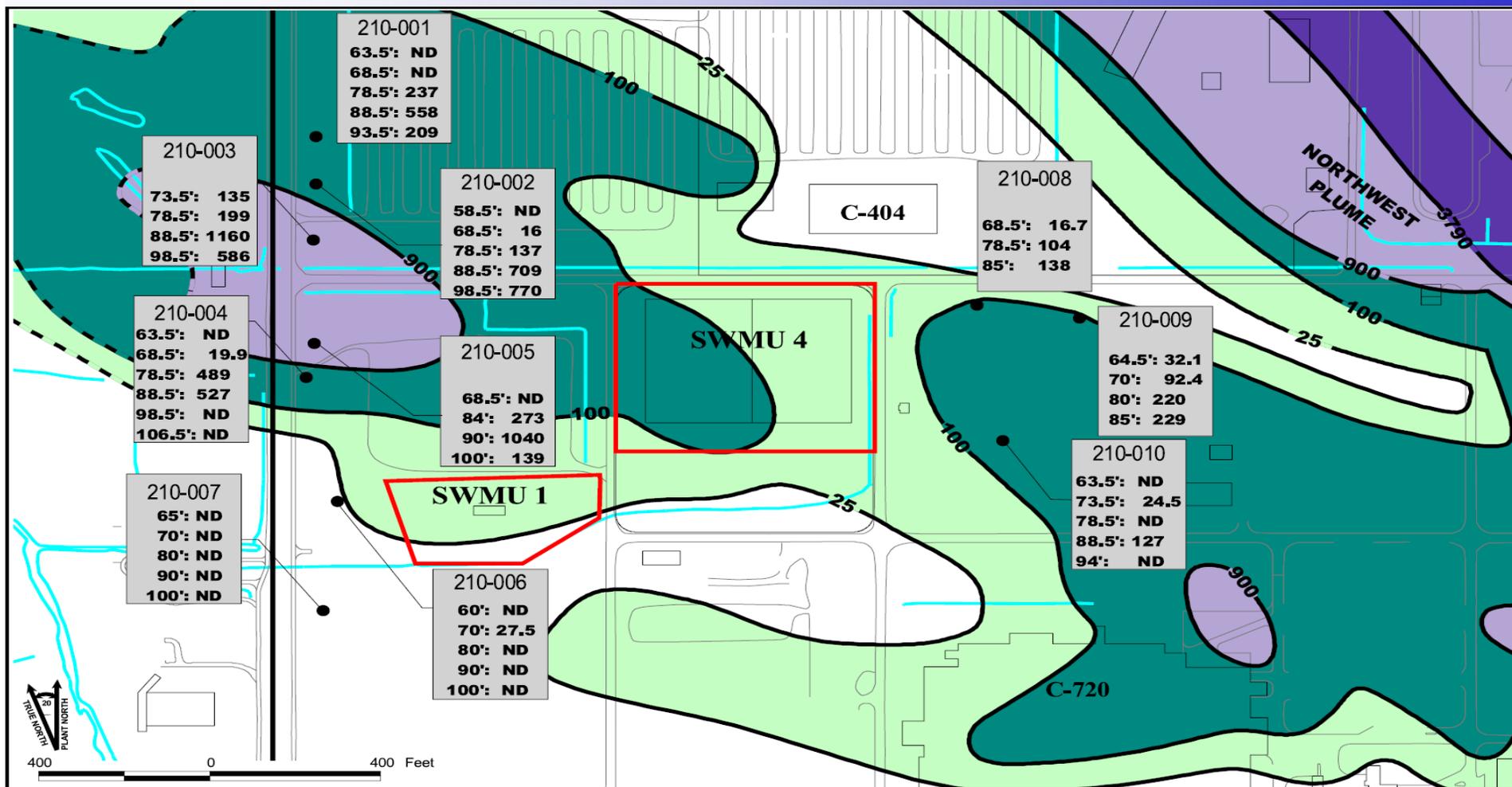
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Slide 18 Fig. 4.15. TCE results from dissolved-phase SI sampling.

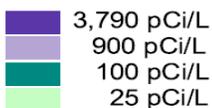


SW Plume – ⁹⁹Tc



LEGEND:

Tc-99 Plume Boundary :
(modified from BJC 2004)



Sample Depth & ⁹⁹Tc:
Result (pCi/L)

60':	20
70':	22
80':	15
90':	18
100':	18

ND=non-detect

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Results and Conclusions for SW Plume

- TCE concentrations at the fence range up from non-detect to 630 $\mu\text{g/L}$. ^{99}Tc concentration at the fence range from non-detect to 1,160 pCi/L. Concentrations increase with depth.



Results and Conclusions for Site Investigation of SW Plume

- Primary contaminants defining the plume are TCE with lesser amounts of other VOCs and ^{99}Tc .
- SWMU 4 is the most important contributor of TCE and ^{99}Tc to the plume; SWMU 4 is being evaluated as part of BGOU.
- C-400, located upgradient of SWMU 4, may be a contributor to the plume.
- Modeling indicates that no exceedances of the TCE MCL are expected at the DOE property boundary.



PGDP Property Acquisition Study

**PGDP Citizens Advisory Board
June 15, 2006**

Presented by Lindell Ormsbee,
Director; Kentucky Research Consortium for Energy and
Environment (KRCEE)



Congressional Directive to DOE

“Within the funds provided the Department shall undertake a study of the potential purchase of property or options to purchase property that is located above the plume of contaminated groundwater near the facility site. The study shall evaluate the adequate protection of human health and environment from exposure to contaminated groundwater and consider whether such purchase, when taking into account the cost of remediation, long-term surveillance, and maintenance, is in the best interest of taxpayers.”

Energy and Water Development Appropriation Bill, 2006 (Senate Report 109-084)



Project Mission

Evaluate a range of remedial alternatives relative to the purchase of properties impacted or potentially impacted by contamination from the PGDP. Evaluation criteria are:

- Protection of public health and the environment and
- Cost of implementation.

Information developed will be used in decision documents in a manner consistent with applicable requirements and procedures.



Project Tasks/Responsibilities

- **Task #1:**
 - Identification of property overlying and immediately adjacent to the contaminated groundwater plumes and the potential surface water contaminant pathways near the Paducah facility.
 - Performed by KRCEE, UK Ag Economics, UK Ag Engineering, and UK Civil Engineering.
- **Task #2:**
 - Delineation of approaches for either property purchase, or obtaining options to purchase, the properties identified in Task #1.
 - Performed by UK College of Law.



Project Tasks/Responsibilities

- **Task #3:**
 - Development of cost estimates to acquire interests in property based upon the approaches developed for purchasing the property/options as part of Task 2.
 - Performed by KRCEE, UK Ag Economics.
- **Task #4:**
 - Completion of sensitivity analyses to determine groundwater flow paths that might result upon cessation of enrichment operations.
 - Performed by KRCEE and UK Civil Engineering.



Project Tasks/Responsibilities

- **Task #5:**
 - Identification of current remedial action assumptions for sources contributing contamination to groundwater and surface water migration pathways and changes in assumptions that could result from implementation of sustainable restrictions of human exposure to contaminated media.
 - Performed by KRCEE.
- **Task #6:**
 - Identification of conditions necessary to render property acquisition cost-effective while still ensuring protection for human health and the environment.
 - Performed by KRCEE



Project Tasks/Responsibilities

- **Task #7:**
 - Completion of an economic analysis of the potential purchase options.
 - Performed by KRCEE, UK Ag Economics.

- **Task #8:**
 - Public interaction support.
 - Three presentations for CAB (May, July, September).
 - Two presentations for public (June and October).
 - Performed by KRCEE.

- **Task #9:**
 - Reporting.
 - Draft report due September 15, 2006.
 - Final report due October 31, 2006.
 - Performed by KRCEE.



Study Schedule

ID	Task Name	Start	End	Duration	Mar 2006		Apr 2006			May 2006			Jun 2006			Jul 2006			Aug 2006			Sep 2006			Oct 2006							
					3/19	3/26	4/2	4/9	4/16	4/23	4/30	5/7	5/14	5/21	5/28	6/4	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	9/24
1	Project Scoping	3/15/2006	5/19/2006	9.60w	↔ KRCEE																											
2	Project Kickoff	5/19/2006	5/19/2006	0.04w	↕ PROJECT TEAM & DOE																											
3	Task #1 Identification of properties	5/19/2006	7/12/2006	7.80w	↔ UK Ag Engr, KRCEE																											
4	Task #2 Delineation of property of acquisition options	5/19/2006	7/27/2006	10w	↔ UK Law																											
5	Task #3 Development of cost estimates	5/19/2006	7/13/2006	8w	↔ UK BE & UK Ag Ext																											
6	Task #4 Completion of groundwater sensitivity analyses	5/19/2006	7/6/2006	7w	↔ UKCE																											
7	Task #5 Identification of remedial action assumptions	5/19/2006	6/8/2006	3w	↔ KRCEE																											
8	Task #6 Identification of cost-effective property acquisition conditions	6/20/2006	7/17/2006	4w	↔																											
9	Task #7 Completion of economic analysis of potential purchase options	7/17/2006	8/11/2006	4w	↔																											
10	Task #8 Public interaction support	4/20/2006	9/21/2006	22.20w	↔ KRCEE & DOE PPPO																											
11	Task #9 Reporting	5/19/2006	10/31/2006	23.60w	↔																											
12																																
13	Brown = UK Ag Engineering	3/15/2006	3/15/2006	0w	◆																											
14	Gray = UK Ag Econ	3/15/2006	3/15/2006	0w	◆																											
15	Cyan = KRCEE	9/5/2005	9/5/2005	0w																												
16	red = Project Team	9/5/2005	9/5/2005	0w																												
17	green = UK Law	9/5/2005	9/5/2005	0w																												
18	yellow = UK Civil Engineering	9/5/2005	9/5/2005	0w																												
19	Blue = DOE PPPO	9/5/2005	9/5/2005	0w																												



Upcoming Activities

- **Public Briefing**
 - June 29, 2006.
 - Place to be announced.
- **CAB Briefing #2 – Status Update**
 - July 20, 2006.

**Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006**

Project: Solid Waste Contained Landfill

Contact Persons:

Paducah Remediation Services LLC: Matt LaBarge

Commonwealth of Kentucky: Todd Hendricks

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: The operating landfill and support facilities are located on 60-acres of DOE property near Ogden Landing Road, operating under a permit from the Kentucky Division of Waste Management (KDWM). Landfill disposal operations began in 1997. DOE uses the landfill for disposal of solid waste generated from its operations at the Paducah site. Examples of wastes accepted include non-hazardous soil and debris from environmental cleanup and other DOE projects, protective clothing worn by workers, paper, packaging, and landfill office wastes. No waste classified as hazardous or radioactive is accepted.

Key documents:

- Environmental Assessment for the Construction, Operation and Closure of the Solid Waste Landfill at the Paducah Gaseous Diffusion Plant (DOE/EA-1046)
- Environmental Assessment on the Implementation of the Authorized Limits Process for Waste Acceptance at the C-746-U Landfill (DOE/EA-1414)
- Waste Acceptance Criteria for the Department of Energy Treatment, Storage, and Disposal Units at the Paducah Gaseous Diffusion Plant (BJC/PAD-111R4)
- C-746-U Landfill Solid Waste Disposal Facility Permit Number 073-00045

Issues:

- The Kentucky Resources Council has petitioned Kentucky for an administrative hearing on permit renewals for the C-746-S and C-746-T landfills and approving the construction and use of a leachate treatment facility for the C-746-U landfill.

Recent accomplishments/activities:

- A&K Construction broke ground for the C-746-U Leachate Treatment Facility in late March and completed utility and foundation construction in early April
- Building construction was completed May 5
- Treatment equipment installed in the building on May 16
- Operational testing and training scheduled for completion on July 20
- In May, loads containing 93.34 tons of waste material were disposed in the landfill

Activity over next 60 days:

- Complete construction of the C-746-U Leachate Treatment Facility
- Continue disposal of construction debris and other non-hazardous solid waste streams
- Support the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study

**Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006**

Project: Waste Disposition

Contact Persons:

Paducah Remediation Services LLC: Matt LaBarge/Greg Shaia

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: DOE is responsible for disposal and/or recycling of legacy wastes (wastes generated at the PGDP prior to establishment of USEC on July 1, 1993); wastes generated from ongoing DOE projects; and a limited amount of waste generated by USEC. After characterization to assure selection of the appropriate disposition method, non-hazardous and non-radioactive wastes are disposed of in the DOE Solid Waste Contained Landfill. *(Please see landfill update sheet.)* Hazardous and radioactive wastes are treated if necessary and shipped off-site to approved DOE or commercial disposal facilities. Wastewater (collected from sumps in diked areas in DOE waste storage facilities at PGDP) is treated and discharged in accordance with the Kentucky Pollutant Discharge Elimination System permit.

Key documents:

- Paducah Waste Acceptance Criteria (BJC/PAD-11, Revision 4)
- Final Environmental Assessment for Proposed Disposition of Waste from the Paducah Site (DOE/EA-1339 and Addendum DOE/EA-1339-A) (FONSI)
- Agreed Order DWM-31434-042
- Site Treatment Plan (STP) DWM-30039-042

Issues:

- None

Recent accomplishments/activities:

- Shipped 288.55 cubic feet of mixed low-level waste to TSCA Incinerator
- Disposed 1080 cubic feet outside legacy waste in C-746-U Landfill

Activity over next 60 days:

- Ship several trucks of solid waste to TSCA Incinerator
- Repackage and ship mixed low-level waste to treatment/disposal at Energy Solutions and Perma-Fix facilities
- Dispose legacy waste stored in outside locations in C-746-U Landfill

**Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006**

Project: Decontamination & Decommissioning (D&D)

Contact Persons:

Paducah Remediation Services LLC: Don Ulrich/Brad Montgomery

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: The D&D project has completed development of Comprehensive Environmental Response, Compensation, and Liability Act regulatory documentation and has initiated actual D&D of the C-410/420 Feed Plant Complex. The current scope of D&D includes infrastructure removal on the C-410/C-420 complex, as well as ongoing surveillance and maintenance of the C-410/C-420 complex and the C-340 Metals Plant complex. Scope also included development of Safety Basis Documentation for the removal of equipment, piping, and stored material from the C-410 Complex. Operations at both complexes ended in 1977.

The Engineering Evaluation and Cost Analysis and the Action Memorandum for three inactive Facilities, the C402 Limehouse, the C-405 Contaminated Items Incinerator, and the C-746-A West End Smelter, have been completed and approved. The Removal Action Work Plan for the C-402 Limehouse has been approved by the regulatory agencies, and the C-405 and C-746-A West End Smelter RAWP is under development.

Key documents (C-410 and Inactive Facilities):

- Engineering Evaluation/Cost Analysis (EE/CA)
- Action Memorandum
- Removal Action Work Plan (RAWP)
- Cultural Resources Assessment of C-410 Complex
- Agreed Order DWM-31434-042

Issues:

A UF6 release occurred inside C-410 Building on March 1, 2006, when a mechanic snagged an instrument line while routing an air line through the building, resulting in the line breaking. The line contained residual material that was not completely removed when the facility was shut down. Monitoring outside the building indicated no detectable HF outside the building. Implementation of the recovery process is continuing.

Recent accomplishments/activities:

- Developed and implemented an approach for resuming activities in the C-410 Complex, and completed performance of walkdowns inside C-410 to identify, mark, and protect potential hazards prior to resuming work in the complex. Completed approximately marking of hazards on ground floor of building in up to a height of 8 feet in May.
- Continued D&D activities in the C-402 Limehouse
- Busswork removal from Sector 2 is approximately 40% complete. Initiated hazard marking in overhead spaces (areas where busswork is located) to allow busswork activities to resume.
- Resumed packaging loose debris and waste; packaged 6,000 cubic feet (10 Intermodals in May)
- Completed application of fixative on stacks and continued fixative application on painted metal outside building
- Completed sampling activities in C-405 to support waste characterization

Activity over next 60 days:

- Continue packaging of loose materials in C-410 Complex
- Continue demolition activities in C-402 Lime House
- Continue fixative application to exterior painted metal surfaces of the building
- Package demolition debris for shipment to EnergySolutions of Utah
- Submit RAWP for C-405 Incinerator and C-746-A West End Smelter to regulatory agencies for review and approval
- Perform sampling for waste characterization of C-746-A West End Smelter
- Resume busswork removal in C-410
- Initiate asbestos abatement activities and piping removal in C-410

Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006
Project: DOE Material Storage Areas (DMSAs)

Contact Persons:

Paducah Remediation Services LLC: John Samples
Commonwealth of Kentucky: Jon Maybriar/Mike Guffey
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: The 160 DMSAs are non-leased areas inside buildings, as well as outdoor areas. DOE accepted the return of the areas, and the material and equipment they contained from USEC on December 31, 1996, to facilitate NRC certification of the gaseous diffusion plants. At that time, most of the contents needed detailed inventory, characterization, and disposition. Since that time, DOE and contractors have been documenting contents, resolving environmental concerns such as draining and disposing of oils from old equipment, and segregating and disposing of wastes.

Key documents:

- PGDP Department of Energy Material Storage Area Characterization/Remediation Plan (BJC/PAD-186/R4), April 2001
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues:

- Increased rigor in characterizing painted items for PCB content has impacted characterization, packaging, and disposal activities. Effort is under way to resolve different requirements and allowances between Kentucky and EPA regulations for solid waste disposal of painted items.

Recent accomplishments/activities:

- 4,399 ft³ of material characterized (including sampling) during May
- 8,214 ft³ of material packaged for disposal during May
- 2,312 ft³ of material disposed during May

Activity over next 60 days:

- Continue characterization of "Priority B" DMSAs under the Agreed Order
- Initiate final closure certification for approximately 20 DMSA RCRA Closures

Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006
Project: Groundwater Operable Unit

Contact Persons:

Paducah Remediation Services LLC: Joe Tarantino/Mike Clark/Mike Troutman

Commonwealth of Kentucky: Jon Maybriar/Todd Mullins

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart

Purpose: Environmental Cleanup

Description: This project addresses environmental remediation of groundwater contamination on a site-wide basis at the Paducah Gaseous Diffusion Plant. The main contaminants of concern are trichloroethylene (TCE) and technetium-99 (⁹⁹Tc). Remedial actions will be designed and implemented after completion and signing of Records of Decision (RODs).

Key documents:

- Feasibility Study of the Groundwater Operable Unit at PGDP (DOE/OR/07-1857)
- Agreed Order DWM-31434-042
- Six-Phase Treatability Report (DOE/OR/07-2113)
- Proposed Remedial Action Plan for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2114)
- Southwest Plume Site Investigation Work Plan (DOE/OR/07-2094)
- S&T Landfill Site Investigation Work Plan (DOE/OR/07-2098)
- Record of Decision for Interim Remedial Action for the Groundwater Operable Unit for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2150&D2/R2)
- Remedial Design Work Plan for the Interim Remedial Action for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2214&D2)
- Remedial Design Support Investigation Characterization Plan for the Interim Remedial Action for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2211&D2)
- Site Investigation Report for the Southwest Groundwater Plume (DOE/OR/07-2180&D1)
- Site Investigation Report for the C-746-S&T Landfills (DOE/OR/07-2212&D2)
- Land Use Control Implementation Plan: Interim Remedial Action for the Groundwater Operable Unit for the Volatile Organic Contamination at the C-400 Cleaning Building (DOE/OR/07-2151&D1)

Issues: Discussions with the State of Kentucky and EPA are continuing concerning the use of degradation factors utilized in groundwater modeling to support risk assessment development. The D2 SW Site Investigation Report is being updated utilizing revised degradation values in the groundwater modeling.

Recent accomplishments:

- Paducah Remediation Services made a decision to self perform the selected remedy for the C-400 Remedial Action. Preparations are currently being made to begin the Remedial Design Support Investigation.
- Regulators approved the D2 Site Investigation Report for the C-746-S&T Landfills. All additional environmental restoration activities will be evaluated and implemented as part of the Burial Grounds Operable Unit.

- Responded to DOE and regulator comments on the D1 Land Use Control Implementation Plan (LUCIP) for the C-400 Interim Remedial Action
- Revised the D2 Remedial Design Work Plan to include the LUCIP as an appendix
- Continued Supporting a Department of Energy Headquarters Remedy Review Team in evaluating the status of remediation at PGDP for Burial Grounds and Groundwater
- Issued D2 Site Investigation Report for the Southwest Groundwater Plume

Activity over next 60 days:

- Initiate design and design investigation activities for the implementation of the C-400 Interim Remedial Action

FFA Milestones:

- D1 Proposed Remedial Action Plan by 7/16/06 (Milestone being modified pending resolution of the degradation factor use in groundwater models)

Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006
Project: Surface Water Operable Unit (On-Site)

Contact Persons:

Paducah Remediation Services LLC: Joe Tarantino/Kendall Holt/Jana White

Commonwealth of Kentucky: Jon Maybriar/Brian Baker

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart

Purpose: Environmental Cleanup

Description: The Surface Water Operable Unit (On-Site) Project includes a site investigation to identify hot spots in ditches and outfalls, including Sections 3, 4, and 5 of the North-South Diversion Ditch. The site investigation scope also includes an evaluation of whether additional sediment control measures are needed, as well as actions for potential legacy releases associated with the storm sewer system. The results of the site investigation will be documented in a Site Investigation/Baseline Risk Assessment Report and non-time-critical removal action documentation, as appropriate.

Key documents:

- Sampling and Analysis Plan for Site Investigation and Risk Assessment of the Surface Water Operable Unit (On-Site), DOE/OR/07-2137&D2/R2
- Surface Water Operable Unit (On-site) Site Investigation and Baseline Risk Assessment Report at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/LX/07-0001/D0

Issues: None

Recent accomplishments:

- Issuance of the SWOU SI/RA Draft D0 to DOE for review

Activity over next 60 days:

- Prepare Site Investigation/Baseline Risk Assessment D0 Report for DOE review
- DOE technical review of the SWOU SI/RA D0
- Incorporate D0 comments and prepare D1 SWOU SI/RA

FFA Milestones:

- Issue Site Investigation/Risk Assessment Report by August 16, 2006
- Issue Removal Notification by October 12, 2006

Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006
Project: Scrap Metal Removal Project

Contact Persons:

Paducah Remediation Services LLC: Chris Marshall

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart/John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: About 36,000 tons of scrap metal exists at the PGDP, excluding nickel ingots. This project involves the removal of 26,700 tons of general scrap metal, 2,000 tons of aluminum ingots, and approximately 7,412 tons of classified scrap. The project does not include the recycling or disposal of 9,700 tons of nickel. Note the classified scrap total has been revised downward based on field experience.

Key documents:

- Engineering Evaluation and Cost Analysis
- Action Memorandum
- Removal Action Work Plans
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues: None

Recent accomplishments:

- On April 21, 2006, over 349 tons of scrap were shipped, and on May 30, 2006, 3,269 tons of scrap metal were shipped via rail to EnergySolutions
- Since January 1, 2006, 6,976 tons of scrap metal have been shipped via rail to EnergySolutions
- High sided gondola cars are allowing ~25% more material in each car. That, combined with twice as long 50-car trains, has resulted in the May 30 train to match the tonnage in the previous three trains combined.

Activity over next 60 days:

- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Continue shipment of scrap metal to EnergySolutions

Project Status Update for DOE Paducah Citizens Advisory Board
June 15, 2006
Project: Burial Grounds Operable Unit

Contact Persons:

Paducah Remediation Services LLC: Joe Tarantino/Kendall Holt/LeAnne Garner
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: A Remedial Investigation/Feasibility Study (RI/FS) Scoping Document and the RI/FS Work Plan for the investigation of the Burial Ground Operable Unit (BGOU) at PGDP have been developed. The documents utilize a compilation of sampling information collected on and around the PGDP over the course of the last ten years. The BGOU includes Solid Waste Management Units (SWMUs) 2, 3, 4, 5, 6, 7, 30, and 145.

Key documents:

- Scoping Document for the Burial Grounds Operable Unit Remedial Investigation/Feasibility Study at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky
- Work Plan for the Burial Grounds Operable Unit Remedial Investigation/Feasibility Study at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/OR/07-2179

Issues: None

Recent accomplishments:

- BGOU D2 RI/FS Work Plan was completed and distributed to the Commonwealth of Kentucky and the EPA on December 19, 2005
- Comments from the Commonwealth of Kentucky are scheduled to be received by June 21, 2006

Activity over next 60 days:

- Receive regulator approval of the RI/FS Work Plan

Project Status Update for DOE Paducah Citizens Advisory Board
April 11, 2006
Project: Depleted Uranium Hexafluoride (DUF₆) Project Surveillance & Maintenance

Contact Persons:

DOE Site Office: John Sheppard
Uranium Disposition Services: Barry Tilden
Commonwealth of Kentucky:
U.S. Environmental Protection Agency:
Citizens Advisory Board:

Purpose: Maintain safe storage of DOE DUF₆ cylinder inventory pending disposition.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF₆ inventory, which is a by-product from enriching uranium for nuclear fuel. At Paducah, approximately 36,700 cylinders contain approximately 442,790 metric tons of DUF₆. There are also 182 cylinders of low-enriched UF₆, about 900 cylinders of "normal" UF₆ (which has not gone through the enrichment process), and 276 empty cylinders. The DOE inventory at Paducah includes the material generated from 1952 until the establishment of USEC in July 1993, and material transferred from USEC to DOE since that time.

Surveillance and maintenance involves safely storing DUF₆. Most of the 60-acre DOE cylinder yard complex now consists of concrete yards, which provide for improved storage and inspection. In recent years, DOE cleaned and painted 3,368 cylinders that had surface corrosion. DOE continually monitors and inspects its cylinder inventory to assure safe storage.

Key Documents for surveillance/maintenance:

- Handling and Inspection of DOE 48-Inch Diameter UF₆ Cylinders at Paducah (UDS-PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF₆ Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF₆ Conversion Facility
- Documented Safety Analysis for the DOE Cylinder Yards, BJC/PAD-459
- Technical Safety Requirements for the DOE Cylinder Yards, UDS-C-TSR-001

Issues: OIG Review of 30A Cylinders

Recent accomplishments/activities:

- An agreement with the Bonneville Power Administration (BPA) has been approved to transfer 672 cylinders of DUF₆ to BPA to supply power reactor fuel; 513 cylinders have been transferred through May 2006
- An agreement with USEC has been approved to "clean up" 743 cylinders of off-spec "normal" UF₆; 619 cylinders have been transferred through May 2006
- Issued a Characterization Report on the resolution of the phosgene issue in 30A cylinders
- As of the end of May, UDS has completed 77% of the annual cylinder inspections, 99% of the quadrennial cylinder inspections and 71% of the radiological surveys required for the fiscal year that ends October 31, 2006

Activity over next 60 days for surveillance/maintenance:

- Continue transferring cylinders as per the two previously mentioned agreements